

ADSC/WSDOT Team Meeting Attendees**April 6, 2005**

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The meeting began at 8:30 AM. The previous meeting minutes were reviewed with no comments.

Changes to Soldier Pile Concrete

Patrick Clarke advised the Team of an upcoming change to soldier pile construction. Past practice has been to require structural concrete in the toe of the soldier piles (below the lagging). Recent review by Bridge and Structures has shown that this is generally not necessary. Unless a special situation dictates the use of structural concrete in the toe, future projects will show this as CDF.

Action Plan:

- No action required.

Salmon Creek Constructability Review

Todd Mooney requested ADSC comments on an upcoming project at Salmon Creek. This project will construct a single span bridge with a 130-foot span length. Each abutment will require four 4'-0" diameter shafts. The soil profile at this location is as follows.

- Alluvium material from existing ground to a depth of 15 feet.
- Gravel and cobble layer approximately 25-30 feet thick
- Cohesionless dense silty sand/silt layer 15 feet thick

- Material similar to Troutdale Formation. Shafts will be tipped in this material.

Because of the cohesionless layer, Geotech is proposing the use of full-depth temporary casing.

John Tuttle asked how far this project was from the recently constructed 205 project (99/20 realignment?). Shafts were constructed at this project with slurry if fines are present. The Salmon Creek project would also be a candidate for sonic coring. John will look into the possibility of using sonic coring on this project.

Tom Armour and Alan McNab didn't see many problems constructing these shafts with slurry. Alan recommended using fifteen or twenty feet of surface casing with slurry to support the shaft below the casing. It was also suggested to allow telescoping at this location (in other words, design for telescoping).

ADSC will continue to review this project and will submit additional comments to Mo.

Action Plan:

- Alan to provide combined ADSC comments within one week.
- John Tuttle to look into the possibility of sonic coring.

Softening Top of Shaft with Auger.

Tony Allan and Mo Sheikhezadeh met with Bridge and Structures to discuss the possibility of softening the top of shafts with an auger prior to installing casing. Current shaft design relies heavily on the capacity of the soils near the top of the shaft. Augering these soils could have a negative effect on the soil properties and result in lower capacity than assumed for design. As a result, Bridge was unable to allow augering prior to casing installation.

As a follow-up, it was asked if this would be acceptable provided the auger was of a smaller diameter than the shaft. No one saw any problem with this.

Action Plan:

- No action needed.

Shaft Tip Post-Grouting

Mo provided an update on post grouting in light of the patent held by Beck. WSDOT is no longer pursuing an agreement with Beck. Instead, WSDOT will be involved in joint research with Caltrans and University of Nevada-Reno (Professor Norris) to examine the benefits of post-grouting. Alan suggested applying for a grant through the ADSC research fund.

Action Plan:

- Alan will look into the ADSC application grant process.

Feedback on Joint Training

The joint training conducted in Bothell and Spokane was a success. Attendance at these training sessions was as follows.

Attendance at 2005 Joint Training		
	Bothell	Spokane
Contractors	26	20
Dept. of Trans.	48	7
Consultants	30	0
Total	122	27

The attendance in Spokane was down from last year. It was suggested that the Spokane training be conducted every other year.

Several people commented about the poor attendance at the panel discussion held at the end of the training. Methods to encourage people to stick around could include a raffle at the end of the day or afternoon “refreshments”.

It was suggested that thank-you notes be sent to the facilities that hosted the training.

Action Plan:

- Bob Birdsall to send thank-you cards to the facilities.

Force Account Rate Determination

Mo will be getting a letter to ADSC before the end of the week to request equipment pricing. This will give ADSC the permission they need to proceed with this work.

Action Item:

- Mo to provide letter requesting pricing to ADSC.

Minimum Level of Shaft Slurry

There was extensive discussion about the minimum levels of slurry that must be maintained in the shaft. Some ADSC members were concerned that the minimum ten feet of head currently required was excessive. Also, the current special provision doesn't allow the use of methods to increase the specific gravity of the slurry and reduce minimum head requirements. Currently, FHWA requires a minimum of two meters of head.

Both Cetco and KB Technologies expressed concern about lowering the minimum slurry requirements. There was a concern with regards to a reduction in the slurry head during the auger extraction and the speed at which the auger is extracted. The official manufacturer's recommendation for these slurry products is seven to ten feet of head.

If methods are used to increase the specific gravity of the slurry, no one in the meeting saw problems allowing associated decreases in head. However, this would probably be a small reduction in minimum head since we are limited in how much the specific gravity can be increased. Geotech will investigate this and discuss at the next meeting

Action Item:

- Tony Allen will look at reducing minimum head requirements when specific gravity is increased. He will report at the next meeting.

Changes to Specifications

Mike Bauer discussed recent minor changes that had been made to the Drilled Shaft Specification. He also discussed changes to the bottom cleaning requirements for soldier pile shafts. The new Specification allows up to twelve inches of soft material at the bottom of the shaft. Geoff Grieder thought that this was excessive. He suggested that WSDOT allow a maximum of six inches of soft material.

Action Item:

- Mike to reduce the maximum amount of soft material to six inches for soldier piles.

Load Cell/Ram Gage Correlation

The current Specifications' requirement for application of hydraulic jacks and load cell is inappropriate. Mo handed out a detailed procedure for proper application of load cells prepared by Mark Etheridge. The ADSC recommends adoption of these procedures.

Action Item:

- Mike Bauer will incorporate these recommendations in the Standard Specifications.

Allowing for Alternate PGA Designs

There was continuing discussion on eccentric PGA's and use of tension bars vs. concentric PGA's and use of pipes for web reinforcement. WSDOT continues to have a concern about the use of side pockets. Tom Armour acquired a price difference between the two systems during the meeting. Tom reported a fabrication cost of \$150 for the side pockets vs. \$200 for the concentric web reinforcing. Most of the Drillers were satisfied with the current WSDOT practice of concentric loading. Mo will again ask Bridge Design about the possibility of using side pockets as an acceptable alternative in PGA designs.

Action Item:

- Mo will ask Bridge Design about the use of side pockets. He will report back at the next meeting.

Allowing a Post-Grouting Tube for PGA's

Don Morin suggested modifications to the Specification to allow the use of auxiliary post-grouting tubes when PGA's are installed. Other ADSC members pointed out that this is already allowed by the current Specification. Malcom routinely uses post-grouting tubes when they install anchors.

Action Item:

- No action needed.

Development of a Uniform Yield Plot

This issue was brought to light as part of the recent joint training. While all ADSC and WSDOT members agree that yield plots are important, there is no reference to these plots in our Specifications. There was a suggestion that generating yield plots should be a requirement of the contract. Mike Bauer will look at adding language to the Specification to require yield plots. There was discussion over who should produce these plots. In general, the ADSC members didn't see a problem with the Drillers producing the plots. AGRA mentioned that they have an Excel spreadsheet that they use for generating the plots.

Action Item:

- Mike to propose yield plot language for the Specification.

Inclusion of Test Shafts in Geotechnical Reports

Don suggested that exploratory shafts, usually 24" to 36", during the design provide beneficial information for the drillers during the bidding. Arizona currently has such practice in place.

Action Item:

- No further discussions. The geotech branch will take this information under advisement.

Need for PGA Verification Test

This is a new topic that was brought up during the meeting. ADSC is questioning the basis for the verification test for PGA acceptance. Tony Allen looked at FHWA and couldn't find such requirement. It was suggested that this requirement probably came from the PCI.

For ideal soil conditions, ADSC suggested that a factor less than 1.5 could be used. Geotech pointed out that the 1.5 factor is necessary in clay soils because of creep concerns. Tony Allen will investigate the basis of the WSDOT test requirements and look at possibly altering it.

Action Item:

- Tony to investigate basis for verification test for PGA's and report back at the next meeting.

Future Meeting Date

The next ADSC/WSDOT team is scheduled for July 7, 2005.